

REMARKS

In the Office Action, claims 1, 3-8, 10-15, 17-22, and 24-26 were rejected. By the present Response, claims 1, 8, 15 and 22 are amended. Reconsideration and allowance of all pending claims are requested.

Rejections Under 35 U.S.C. §102

Claims 1, 3-8, 10-15, 17-22, and 24-26 were rejected under 35 U.S.C. §102(b) as being anticipated by Rollins, III, U.S. Patent No. 6,606,848 (hereinafter "Rollins"). Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. Applicants respectfully assert that the present invention, as recited in independent claims 1, 8, 15 and 22 is patentable over Rollins.

The pending claims relate analysis of a power generation unit.

Independent claims 1, 8, 15 and 22 recite certain of the claimed subject matter. Specifically, each independent claim recites, in generally similar language, *acquiring a plurality of alternative target operation variables for a power generation unit, and calculating operational efficiency of the power generation unit based upon a plurality of current condition variables, the plurality of alternative target operation variables and a plurality of design constants*. All of the independent claims 1, 8, 15 and 22 have been amended by the present Response to add that the alternative target operation variables include open or closed turbine stage variables.

As set forth in the present application, the recited invention allows for evaluation of a power generation unit design, including various alternative operating states and settings. Of particular interest in the alternative operating variables that can be examined are open and closed turbine stage variables. Accordingly to the specification of the present application, such open stage variables may include clearances, stage flow and correction factors for damaged nozzles and buckets. *See*, Application, page 10, lines 25-

27. Similarly, the closed staged data variables may include clearances, stage flow and correction factors for similarly damaged nozzles and buckets. *See*, Application, page 11, lines 10-13.

Rollins fails to teach evaluation of efficiency based upon alternative turbine stage variables.

Rollins does not teach evaluation of efficiency as claimed. Rollins does describe a gas turbine power plant that includes a heat recovery steam generator or HRSG. In formulating the rejection, the Examiner relied upon an efficiency calculation disclosed in a passage of the Rollins reference beginning at column 36, line 33. The efficiency calculation includes consideration of gas turbine electrical output, steam cycle electrical output, gas turbine input energy, and the HRSG input energy through supplemental firing. Clearly, the latter parameter appears in the denominator of the efficiency calculation because such firing requires the input of energy, thereby reducing the overall efficiency.

For an understanding of the operation of the HRSG and the supplemental firing referred to in the efficiency calculation, reference must be made to column 41, in passages beginning at line 49 of Rollins. Clearly, as set forth in these passages and as would clearly understood by those skilled in the art, the HRSG is intended to add heat to produce high-pressure steam. No one skilled in the art would equate the HRSG, however, to a turbine stage. That is, the purpose of the HRSG is not to generate power. On the contrary, as clearly indicated by the efficiency calculation discussed above, Rollins acknowledges that rather than generating output power, the input to the HRSG is considered a cost to the overall system. Consequently, even if alternative parameters for operation of the HRSG are considered by Rollins, which is not admitted by the Applicants, these parameters do not satisfy the recitation of the claims relating to “alternative target operation variables, including open or closed turbine stage variables.”

The claims depending directly or indirectly from the independent claims discussed above were variously rejected in view of Rollins. However, all of these dependent claims are believed to be equally patentable both for the subject matter they separately recite, as well as by virtue of their dependency from an allowable base claim. Accordingly, reconsideration and allowance of all dependent claims are also requested.

For the reasons summarized hereinabove, Applicants respectfully submits that the reference relied upon by the Examiner cannot support a *prima facie* case of anticipation of independent claims 1, 8, 15 and 22. Accordingly, Applicants respectfully submits that independent claims 1, 8, 15 and 22 and claims depending therefrom are allowable and respectfully request the Examiner to reconsider rejection of the claims.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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